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ABSTRACT

The educational needs and concerns of midlife and older Americans are as varied as their demographics, family status, economic level, and educational backgrounds. One of the most consistent research findings in adult learning is that the more education people have, the more likely they will be to continue to participate in a wide variety of educational opportunities throughout their lives. Increasingly, our economy is moving toward industries that rely upon knowledge. Half of all service workers are expected to have jobs that involve collecting, analyzing, sorting, and retrieving information by the year 2000. It is possible to think systematically about the possibilities ahead for lifelong education that have some degree of feasibility. Three scenarios of lifelong education for midlife and older Americans are possible: (1) learning for a market in which older people may face economic difficulties and where publicly funded lifelong education can be expanded only slightly and may become less accessible to older, poorer individuals; (2) a learning boom in which lifelong education and training grow rapidly in both public and private sectors and access to the development of instrumental skills becomes more equitable in terms of age and socioeconomic status; and (3) the Renaissance scenario--a visionary perspective in which a learning crisis forces both the public and private sectors to address lifelong learning and educational needs on an ongoing, high-priority basis. (LLL)

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LIFELONG EDUCATION FOR THE CHALLENGES OF A RICH AND VARIED FUTURE:

What Older Americans Look For In Education

Remarks Presented before the
Gerontological Society of America
44th Annual Scientific Meeting
San Francisco, California

November 24, 1991

Prepared by

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American Association of Retired Persons

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Diversity of Educational Needs

The educational needs and concerns of midlife and older Americans are as varied as their demographics, family status, economic level and educational backgrounds. Older learners comprise men and women of different socioeconomic backgrounds, races, nationalities, levels of educational attainment, needs and interests. Older workers confronting skill obsolescence, for example, need retraining both on the job and in more formal classroom settings. Women seeking to reenter the job market as displaced homemakers, or after time out for child-rearing, need access to employment counseling and skills training to evaluate their talents and update employment skills. Members of both sexes are likely to investigate entrepreneurial opportunities as they seek to explore second or third careers.

Still others are concerned about coping with stress and learning how to handle life transitions or crisis points. People in their later years, especially women who often outlive their spouses, will need to learn coping skills for the new challenges that come with age. Many older people--once they step outside the daily structure of the workplace--look forward to learning new skills for personal growth and enhancement because they have more time to explore volunteer and leisure activities.

Access to education, pursuit of existing opportunities, and educational attainment are all linked to demographic profiles. High school dropout rates, as well as literacy rates, vary widely by race and ethnic affiliation. Immigration trends will affect the need for training in English as a second language.

These developments have important implications for the future of midlife and older Americans. First, the population aged 65 and over is becoming increasingly well educated; their median years of schooling have increased from 8.7 years in 1970 to 12.1 years in 1988 and are projected to increase to 12.4 years by 2000.[1] These increased proportions represent large numbers of older people achieving higher levels of education. By the year 2000 almost two-thirds of older people are projected to have a high school education compared to about one quarter in 1970.

Second, this trend is significant because people who have higher levels of education are more likely to pursue additional education in one form or another.[2] Thus, the growth in the population aged 50 and over beginning in 1996 (with the first wave of the baby boom generation born from 1946 to 1964) may have a "ripple effect" throughout the entire field of lifelong education--whether in formal or informal settings, work goals or personal enrichment, or self-taught or teacher-led.

Diversity of Educational Opportunities

The diverse educational needs of our adult population are met through a complex mix of settings, methods, technologies, and styles. Clearly, there is no single "school of the future." Whether speaking of child or adult education, the settings range from home instruction to community/neighborhood facilities to traditional classrooms.

Many people today are learning new skills or updating existing abilities to train for new jobs or careers. **(REFER TO FIGURE 1)** Thus, in a nationwide telephone survey of 1,809 adults conducted in 1988 for AARP's New Roles in Society Program (now Forecasting and Environmental Scanning Department), about one half of the respondents aged 50-64 said they had participated in some kind of training or learning program to enhance workplace skills. Moreover, almost as many said they expected to engage in more training in the future.

Another AARP survey in 1988 **(INSERT FIGURE 2)** canvassed 1,754 adults aged 45 and over about four different types of formal education. One out of four respondents said they had participated in formal training at a place of employment. This was followed by learning at a school setting (17 percent); learning at a community facility, such as a church or hospital

(17 percent), and learning through home correspondence courses (5 percent).

Who Are the Older Learners?

People who have positive educational experiences and know first-hand the many benefits that accrue from learning opportunities tend to continue their educational interests throughout their lives. One of the most consistent research findings in adult learning is that the more education people have, the more likely they will continue to participate in a wide variety of educational opportunities throughout their lives.

For example, AARP's 1990 survey of 1,652 adults aged 45 and over **(INSERT FIGURE 3)** showed that over half (56 percent) of those who had graduated from college were taking classes or lessons or learning new skills on their own.[3] By comparison, only 14 percent of those who did not complete high school and 29 percent of those who were high school graduates said they were engaged in learning activities.

A similar pattern **(INSERT FIGURE 4)** prevails among those taking a course or training session at a school setting (4 percent of those without a high school education compared to 35 percent of college graduates); at community facilities (7 percent for non-high school graduates versus 23 percent for those with at least

some college experience); and through home correspondence (only 2 percent for those with a high school diploma or less compared with 11 percent for college graduates).

Older learners typically have different reasons for educational participation than do their younger colleagues. **(INSERT FIGURE 5)** The latter, for example, most often pursue education as a means for job or career development. By contrast older people frequently are motivated to enroll in educational programs that satisfy personal and social needs.[4] These programs typically involve the humanities, religion, social sciences, arts, as well as instrumental programs such as financial management, health care, exercise, retirement planning, and the like.

Opportunities for learning are as diverse as the demand. For example, the Elderhostel Program, established in 1975, currently provides programs throughout 700 campuses. It involves one-week liberal arts courses with living accommodations provided for the older students. Similar undertakings are found in several other college settings such as the Institute for Retired Professionals at New York City's New School for Social Research, the Academy of Senior Professionals at Florida's Eckert College, the UCLA Plato Society, the Academy of Lifelong Learning at the University of Delaware, and the Institute for Learning in Retirement at American University. Course offerings focus on a variety of

humanistic, scientific and applied interests of the older clientele.

Older learners also prefer a different educational format because they do not have as many limiting constraints on their time than do their younger colleagues. Most older learners prefer to schedule their courses around midday since travel at night is perceived as hazardous. Preferred length of instructional sessions also differs, with most older learners opting for a single two-hour session once a week for a month versus an all-day program once a month.

Physical amenities also concern older students. These include easy access (few stairs and close parking), need for increased light and high-quality audio system, and the availability of personal and career counseling services.

Informal Education

Educational benefits need not always be gained through a formal classroom setting, as an increasing number of Americans have discovered. In fact, relatively more Americans aged 45 and over participate in informal educational settings than they do in formal ones. **(FIGURE 6)** Thus, half of midlife and older Americans report having made an effort to learn a new subject by reading books or just by trying the activity.

People who have a greater level of formal education are more likely than those with less education to have participated in either of these learning behaviors. Nonetheless, **FIGURE 7** shows that close to 50 percent of those with only a high school education say they have participated in at least one of these two activities over the past two years. As might be expected, the predominant reason for either learning by reading books or learning through trying the activity is for personal satisfaction.

The Future of Lifelong Learning and Education

Aging Baby Boomers

One of the most profound effects on America's economic and social future relates to the aging of its population over the next 30-40 years. This aging process reflects largely the phenomenon of the so-called "baby boom" generation--starting in 1946 when an all-time high of 3.4 million babies were born in the United States.[5] For 19 years this population surge continued. The result: approximately 76 million people born in the United States from 1946 to 1964--some 17 million **more** than would have been the case if fertility patterns of the early 1940s had prevailed.

Now aged ~~27~~ 28 to ~~45~~ 46, these boomers comprise a diverse group. At times they have been viewed as the "lucky generation"--growing up

during the economic expansion that followed World War II, the first to be raised in new suburbs, the first with new televisions, the first in the new high schools. Often a stereotypical image of baby boomers has prevailed--focusing on the college-educated trend-setters within this generation to the exclusion of other segments of this population. Thus, declares USA Today: "Boomers to work for fun, retire with class" and goes on to explain the thesis of a new book which argues that baby boomers--the college protesters of the 1960s--will be political activists in their old age and retire to college towns.[6]

But recently this generation has been termed "unlucky" as well, reflecting their adverse experiences in the housing and employment markets and concerns about their future retirement security--especially for the younger baby boom cohort (born from 1955 to 1964). In fact, many "boomers" are working in dead-end, low-wage jobs with little hope for advancement while others are riding on the leading edge of technology with exciting careers and rewards.

What does all this mean as the baby boomers become the senior boomers over the next 20 to 40 years?

- By 2020 about 52 million people will be aged 65 and older and by 2030 they will number 65.6 million, accounting for one out of every five persons in the United States.

- People will be spending more of their lifetime in retirement than before. According to census estimates, the average man in 1900 had a life expectancy of 46.3 years of which only 1.2 years, or 3 percent, was spent in retirement or other activities outside the labor force. By 1980 the average man was spending 19 percent, or 13.6 years, of his 70 years' lifetime in retirement.[7] No doubt both life expectancy and retirement years will increase further--with perhaps 20 or more years of retirement over the coming decades a distinct possibility.

- Educational levels of older Americans are likely to rise further: By 2000 almost two thirds (63.7 percent) of the 65 and over population is expected to have a high school education compared with four fifths of the entire 25 and older population at that time.

- Rising levels of educational attainment suggest that overall illiteracy may not constitute as much of a problem for older Americans in the future, providing the educational system meets the continuing challenge of technology. Thus, only eight percent of people aged 30 to 39 and 12 percent of those in their forties are currently illiterate. By 2020 these groups will comprise much of the 60 and over

population--a group that should be much more literate than the same age group today.

- Despite these encouraging signs, many of the problems associated with illiteracy remain. The 25 percent high school dropout rate of today is cause for alarm because of industry's accelerating need for a productive and adaptable work force to keep pace with technological advances and meet worldwide competition. In 1989 over 4 million youth aged 16 to 24 had dropped out of high school; most will be in their forties and fifties by 2020 and will require special attention both in the workplace and in daily life, if they have not obtained additional schooling or training in the interim.

Learning Opportunities in a Diverse and Changing Economy

Increasingly, our economy is moving toward industries that rely upon knowledge. A special report from the World Future Society predicts, for example, that half of all service workers will have jobs that involve collecting, analyzing, sorting, and retrieving information by the year 2000. Half of these information workers are expected to work at home. Instead of commuting to work, they will rely on telecommunications for access to people and information needed to do a full day's work.

Job requirements and technologies are changing rapidly and the pace should continue. Job re-training programs probably will need to be emphasized much more so than currently--not only for semi-skilled jobs which are displaced by technology but also for many white collar positions as well. As a result, continuing education and training will become increasingly critical throughout society.

Most Americans expect that the future will bring opportunities for learning. A 1990 New Roles in Society (NRS) survey of 1,827 adults aged 25 and over **[INSERT FIGURE 8]** showed, for example, that 7 out of 10 older respondents (50 to 64) believed they would be involved in some kind of learning or training in the future. The kind of training or learning anticipated depends, of course, on life stage, income needs, education, and marital status--but over half of these individuals expressed an interest in pursuing leisure activities, hobbies, or personal interests or in doing volunteer work and learning more about such opportunities. Moreover, close to 2 out of 5 respondents aged 65 to 74 felt they would be involved in future learning or training activities as well, mostly engaged in leisure pursuits or volunteer work.

What are some of the factors that prompted respondents to indicate they would pursue additional education in the future? To answer this question, we conducted a statistical analysis to determine which factors accurately discriminated between people

who expressed an interest in future learning and those who did not. These factors included age and sex characteristics, marital status, education, income, and attitudinal/ outlook variables, among others. The results of this analysis showed that:

- Age is an important factor in determining a person's expectations about continuing education, especially for persons under age 65. On the other hand, substantial proportions of older persons--two out of five aged 65-74 and 13 percent of those aged 75 and over--said they also looked forward to continued learning in the years ahead.

- And, not surprisingly, existing levels of education also contribute to a person's interest in further education--as other researchers have confirmed. Thus, 78 percent of college graduates expressed an interest in future education compared to only 47 percent with less than a high school education. **(FIGURE 9)**

- People who are already active in community affairs also seem to have a greater interest in future education than those who are not so active. For example, expected involvement in informal volunteering--helping family and friends with baby sitting or running errands--and expected responsibility for caregiving both play significant roles in predicting

expected involvement in future educational activities. **(FIGURE 10)**

- Moreover, these educational pursuits need not take place in a traditional classroom setting. The same survey reported that two out of five Americans aged 50 to 64 (and one fifth of persons aged 65 to 74) said they would be interested in learning about subjects outside the classroom--for example, in their homes or places of work, either by computer or by television. Again, persons who expressed an interest in educational technologies were also anticipating lifelong education in the future. **(FIGURE 11)**

These data suggest that self-directed means to further knowledge, skills, and adaptability will form an increasingly important segment of the adult educational market. Providing a variety of learning opportunities in locations as diverse as shopping malls, travellers' and doctors' waiting rooms, hospitals, and community centers will enable adults to explore a variety of choices, both "in transit" and "in depth." Emerging technologies should enhance home-based, as well as centrally located learning. Topics could range as far as interests extend, including health promotion, skills training, and personal growth.

Lifelong Education and Society

Attitudes toward aging, lifelong learning and education will shape our society, and at the same time, trends in the larger society will shape lifelong education. The economy and values are two obvious examples of important societal factors. Whether we are suffering the hardships of a receding economy or riding the crest of a rising economic tide will have a great impact on the availability and use of resources for lifelong education. Value trends in the larger society will influence whether lifelong education will be devoted to instrumental, job-related learning or whether it will also emphasize information and skills related to personal growth, creative leisure, and community, national and global issues.

Future Scenarios of Lifelong Learning

While it is not possible to "foresee the future" of lifelong education, it is possible to think systematically about the possibilities ahead that have some degree of feasibility. Potential dangers and opportunities ahead can be identified, along with tools and resources for meeting future challenges. Positive visions of a "preferred future" of lifelong education can also be thought through. This is an especially important task because we believe that positive images of the future can turn out to be "self-fulfilling prophecies," in the sense that

such images influence expectations, perceptions, motivations and actions in ways that make the future they describe more likely to evolve.

This kind of exploration of the possibilities of a highly indeterminate future goes beyond prediction or trend analysis. It requires a methodology of ***scenario generation*** that sorts out today's conflicting trends into a set of internally consistent "alternative futures." These alternative futures are a tool for systematically and imaginatively exploring what the future might hold--the probable, the plausible, and the possible.

Three scenarios of lifelong education for midlife and older Americans (aged 50 and over) are depicted, reflecting alternative images of the social, technological, economic, environmental and political changes that--coupled with changes in lifelong education--may occur in the United States over the next 30 years. The three scenarios are:

1) **Learning for the Market: Worsening Problems**
2) **The Learning Boom: Solving Problems, and**
3) **Renaissance: Exploring New Possibilities for Learning.**

None of these scenarios purports to be an accurate prediction of the future; however, many aspects of the future are likely to exist within the range of these alternatives. The actual future

will probably be some hybrid of these scenarios, and will undoubtedly include surprising changes that these scenarios fail to anticipate.

1) **Learning for the Market: Worsening Problems. The likelihood of this scenario is not very high unless the economy slips into a period of chronic recessions and is unable to compete effectively in both import and export markets.**

The first scenario explores a future where economic and social problems are ignored or dealt with inadequately during the 1990s. **(FIGURE 12)** Low rates of private savings and capital investment stifle gains in economic productivity and real wage growth. Imbalances in trade are exacerbated to the point where the United States is pushed by the international community to implement austerity programs to maintain financial and economic integrity. The economic self-discipline required during the 2000s and 2010s creates an environment in which:

- Public programs are focused almost exclusively on improving the job-related instrumental skills of younger workers.

- New educational technologies are concentrated in businesses, focusing on the development of instrumental skills clearly related to the financial bottom line.

- Institutions and individuals are preoccupied with economic challenges and place little value on learning for leisure and personal growth.

- With efforts concentrated on improving economic performance other social problems are deferred, resulting in a growing rich-poor gap with increasing numbers of people living in poverty, rising health care costs for an older and sicker population, and worsening environmental problems.

- Older people face economic difficulties and retirement is delayed for many.

- Publicly funded lifelong education programs can be expanded only slightly and become less accessible to older, poorer individuals. Self-directed personal learning activities receive little institutional support.

2) **The Learning Boom: Solving Problems. This scenario presents an optimistic image of the future, but well within the bounds of plausibility.**

The second scenario is a more positive image of possible development in society and lifelong education. **(FIGURE 13)** The economy grows at a moderate pace and continues to experience business cycles, though not so severe as in the past. A "cycle of social idealism" comes again during this period, but compared

to the 1960s it is a more entrepreneurial, tough-minded, patient idealism concerned with successful problem solving over the long run rather than immediate, dramatic change. Under these conditions:

- Lifelong education and training grow rapidly in both the public and private sectors, and access to the development of instrumental skills becomes more equitable in terms of age and socioeconomic status.

- Continuing education is viewed increasingly as a solution to social and global problems. Basic literacy is an important focus of attention.

- Education for personal growth continues to be SES-related and is provided largely by the private sector.

- Advanced educational technologies become available in the community or at home for upper socioeconomic status groups.

- Biomedical and other advances lead to higher life expectancy and improved health, thus providing opportunities for more productive activities in the older years.

- Many older people remain employed, or active as volunteers, and contribute to national problem-solving efforts.

3) **The Renaissance scenario reflects a visionary perspective based on a number of assumptions about extraordinary changes in technological development, near optimal economic performance, major value shifts, striking advances in the cognitive potentials of older people, and a reconception of the possibilities of life's later years.**

The final scenario explores the further reaches of what lifelong learning and education might bring in a highly favorable social setting. **(FIGURE 14)** The scenario is crafted to explore the outer boundaries of the learning potential and its contribution to society.

In this scenario an unprecedented pace of technological change provokes a "learning crisis" in the United States, and in other nations as well, that forces both the public and private sectors to address lifelong learning and educational needs on an ongoing, high-priority basis. Economic growth approaches optimum performance as a new wave of technological innovations enter the marketplace. A period of social consciousness emerges, expressed in a concern for global problems and self-actualization.

These two elements combine to produce an increasingly efficient system of information exchange, greater regulatory stability, a cooperative spirit between business and environmental interests, removal of international barriers in finance and business, effective global economic cooperation, emergence of large new markets in the Third World, deescalation of the superpower arms

race--all with concomitant impacts on productivity and worker training. These factors create an environment in which:

- Education is routinely offered on a high-priority basis, with public and private sector policies supporting education for both job skills and personal growth.

- Learning opportunities become increasingly age-neutral and SES-neutral.

- Longer life expectancy with greater physical health and mental acuity later in life, revolutionary developments in information technology, and scientific research on learning combine to make the "third age" of life highly rewarding and productive.

- Society increasingly recognizes new roles for older persons as teachers, mentors and learners.

- Social problems are minimized and major improvements in income distribution reduce the gap between the "haves" and "have-nots."

Lessons From the Scenarios

Whatever direction our economy and society takes in the future, it is clear that an aging baby boom population will face a challenging array of choices: Will they lead involved and active lives? Will they continue to work for pay beyond the current average retirement age of 61? What opportunities will they have for other types of activities and involvement such as volunteerism and leisure pursuits? And how will their talents be used to ensure that their contributions will be productive and recognized by society?

More likely than not, answers to these questions will be shaped by a few key implications that follow from these scenarios.

1. In virtually all plausible futures, four fundamental changes in the evolution of lifelong education are likely to occur:

- People over age 50 will be better educated than ever before and will want to be more actively involved in continuing learning.

- Learning will become a more important part of the life of most individuals.

- The idea of "getting an education" in one's younger years and then "being educated" will be replaced by a concept of lifelong education.

- There will be a shift in social emphasis toward a "learning society" where overall social values and the priorities of different institutions support lifelong learning.

2. There is likely to be far more "plasticity" to aging and to learning in old age than has been assumed in the past. Older people have already begun to be much more active and involved. Lifelong learning is a crucial part of achieving important potential for:

- physical health and vigor into old age
- maintaining mental acuity into old age, and
- allowing a modest increase in life expectancy at age 65.

3. Advances in information technology, combined with advances in the mind/brain sciences, can make learning much easier and more rapid for all, including the elderly population. Few people yet understand the revolutionary impact these advances will have for helping the elderly maintain--and even expand--their capacity for learning.

4. Greater economic equity, in the sense of access to basic minimums, is necessary if lifelong learning opportunities are to become widely available. Without deliberate social policies to improve and upgrade learning opportunities for the poorest Americans, the gap between the educational "haves and have nots" is likely to grow sharply. Underprivileged groups throughout U.S. history have used lifelong education opportunities as one route to gaining greater economic equity. A reduction of poverty is also essential for making larger public investments in lifelong education politically feasible and morally acceptable.

5. Investment in lifelong learning at the individual level has large payoffs at the societal level:

- Much lifelong learning is directed toward or has spillover effects on the well-being of the community.

- Self-help and community-help learning reduces dependency and related costs.

- Involvement in learning activities often provides a psychological sense of meaning and purpose, reducing physical and mental pathologies such as poor diet, loneliness, lack of self esteem.

6. Public and private efforts aimed at fostering and assisting individual learning projects can be among the most effective strategies for improving lifelong education in our society. New forms of counseling, mentoring, coaching, information brokering and advisory services can be developed to help people make choices about what to learn and to support individual learning projects.

People with different backgrounds and values may well draw different conclusions from these scenarios as tools for thinking about the future. While the implications from these scenarios may not all prove valid, we believe they are worth serious consideration. We suggest that researchers reflect upon the scenarios, draw their own conclusions, and focus on the challenge of building positive images of the future of lifelong education.

One final word, to quote from Robert Maxwell, President of AARP:

> **"Education is a window to self-awareness, to personal enrichment, and to building skills for survival, coping, and self-sufficiency. The endless possibilities for our future are waiting outside that window--if we only have the courage to open it."[8]**

END NOTES

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4. David A. Peterson and Pamela F. Wendt, "Public Policy and Lifelong Education," prepared for AARP's New Roles in Society Program, October 1989.

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7. U.S. Congress, Senate, Special Committee on Aging, Aging America: Trends and Projections, Washington, D.C., U.S. Government Printing Office, 1990.

8. Inaugural address of Robert B. Maxwell, President of the American Association of Retired Persons, at the AARP Biennial Convention, Orlando, Florida, 1990.

Charts and Tables for

LIFELONG EDUCATION FOR THE CHALLENGES OF A RICH AND VARIED FUTURE:

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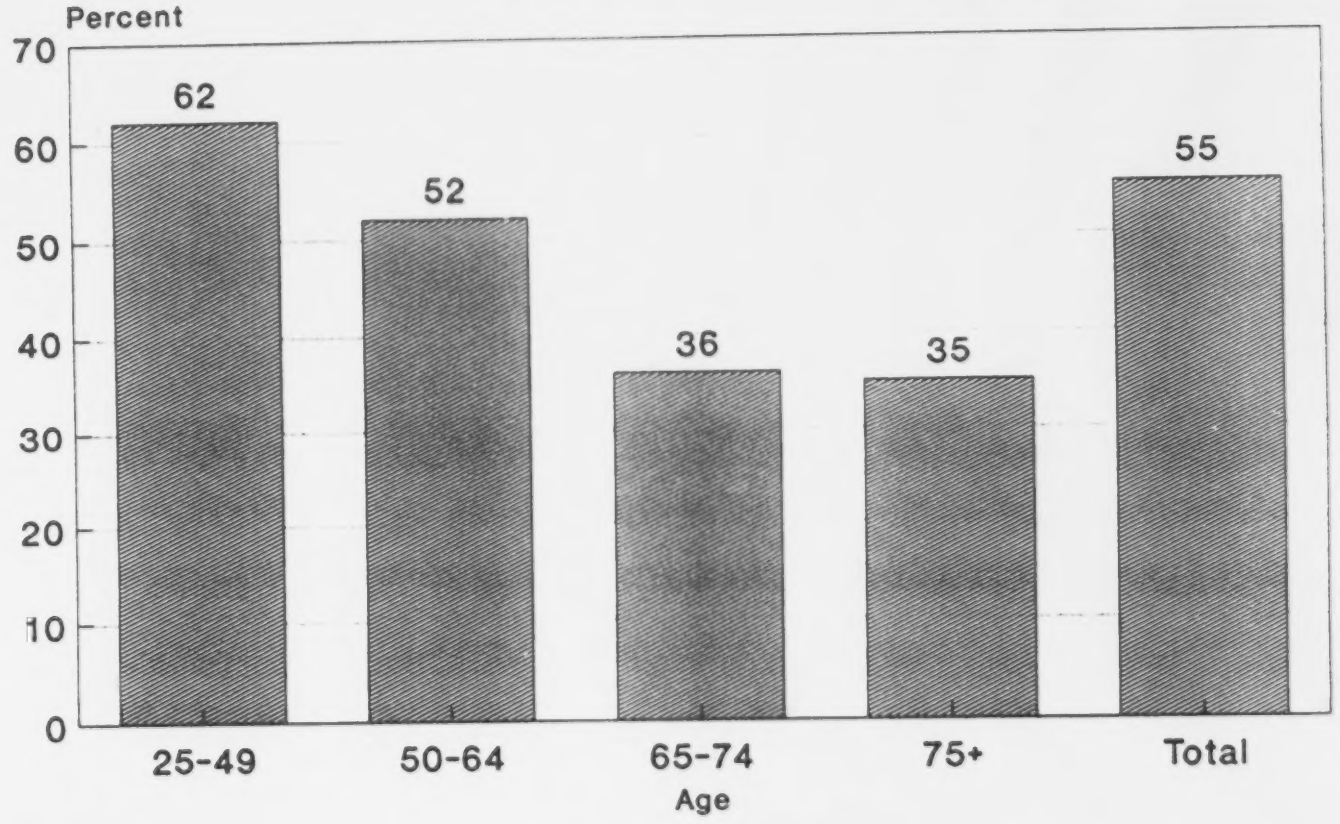
FIGURE 1

PARTICIPATION IN JOB-RELATED TRAINING, BY AGE



n = 1,809 Americans age 25+

NRS, 1987

FIGURE 2

PARTICIPATION IN A COURSE OR TRAINING SESSION WITHIN THE LAST TWO YEARS, BY AGE

(in percent)

	45-64	65+	Total
At a school or community college	24	6	17
At a community facility	19	15	17
At home, through use of a correspondence course	7	2	5
At your place of work, either as an employee or as a volunteer	33	8	24

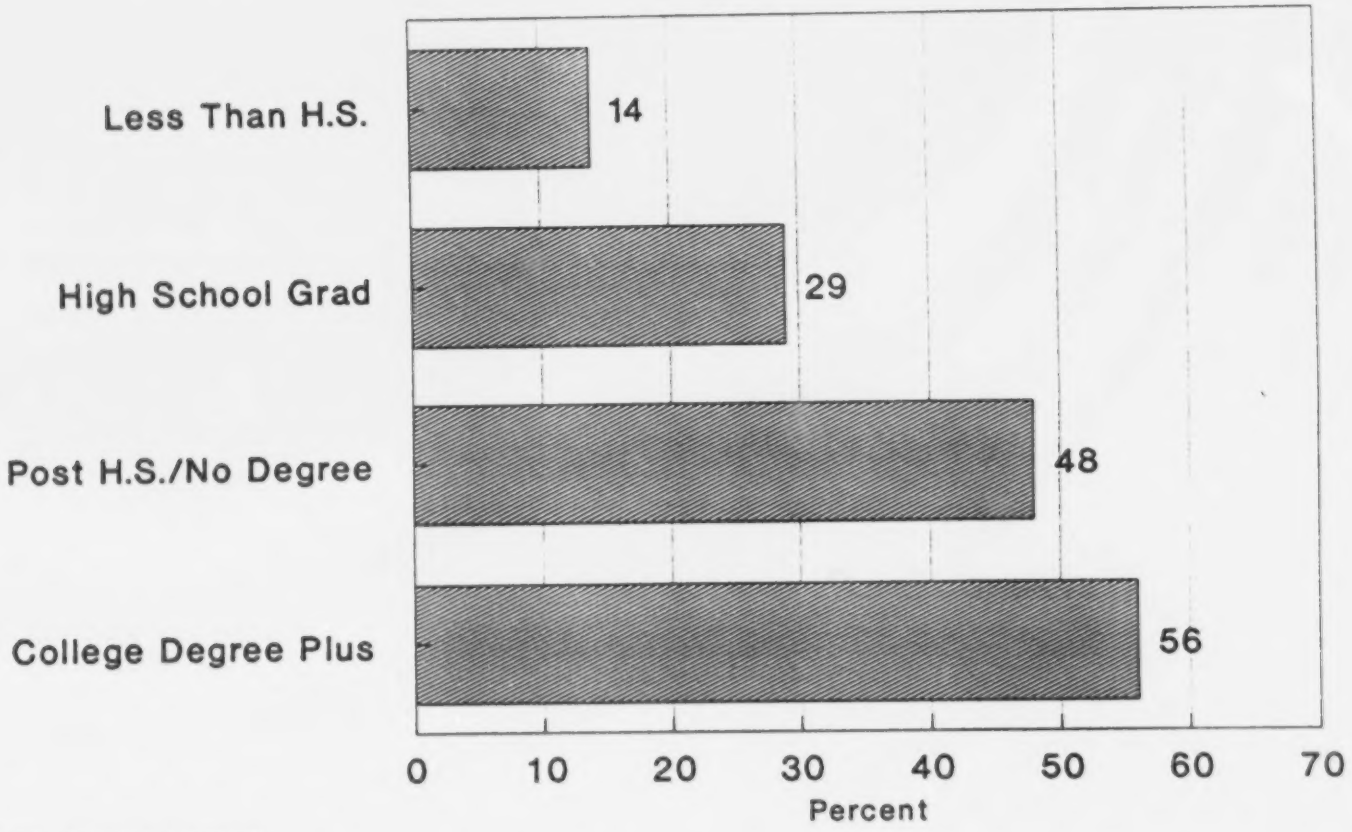
n = 1,754 Americans age 45+

NOTE: Column figures do not add to 100 percent because respondents were asked to indicate all that apply.

AARP, 1988

FIGURE 3

PERSONS ENGAGED IN LEARNING ACTIVITIES, BY LEVEL OF EDUCATION



n = 1,652 Americans age 25+

AARP, 1990

FIGURE 4

PARTICIPATION IN A COURSE OR TRAINING SESSION WITHIN THE LAST TWO YEARS, BY LEVEL OF EDUCATION

(in percent)

	Less Than H.S.	High School Grad.	Post H.S./No College Degree	College Degree Plus	Total
At a school or community college	4	11	24	35	17
At a community facility	7	14	23	27	17
At home, through use of a correspondence course	2	4	6	11	5
At your place of work, either as an employee or as a volunteer	11	22	27	36	24

n = 1,754 Americans age 45+

NOTE: Column figures do not add to 100 percent because respondents were asked to indicate all that apply.

AARP, 1988

FIGURE 5

SUBJECTS STUDIED BY ADULT STUDENTS, BY AGE

(in percent)

	45-64	65+	Total
Other craft or hobby, repairs	20	35	24
Music, art, culture, literature, history	19	24	20
Business skills, public speaking	24	9	19
Computers	18	8	15
Health related, sports, exercise	8	7	8
Cooking, sewing, other household skills	6	11	7
Self-help, stress management	7	4	6
Religious studies	4	12	6
Foreign language	4	7	5
Financial management or investments	4	2	4
Hard sciences	2	2	2
Working toward a degree	2	--	2
Other	8	6	8

n = 1,652 Americans age 45+

NOTE: Column figures do not add to 100 percent because respondents were asked to indicate all that apply.

AARP, 1990

FIGURE 6

PARTICIPATION IN INFORMAL LEARNING ACTIVITIES, BY AGE

(in percent)

	45-64	65+	Total
Reading one or more books on a subject	59	43	53
Watching a TV program or series on a subject	45	36	41
Using an audio or video tape to learn about a subject	29	15	24
Trying it, like learning to play a sport, make repairs, or play a musical instrument	61	41	53

n = 1,754 Americans age 45+

NOTE: Column figures do not add to 100 percent because respondents were asked to indicate all that apply.

AARP, 1988

FIGURE 7

PARTICIPATION IN INFORMAL LEARNING ACTIVITIES, BY LEVEL OF EDUCATION

(in percent)

	Less Than H.S.	High School Grad.	Post H.S./No College Degree	College Degree Plus	Total
Reading one or more books	31	46	65	76	53
Watching a TV program or series	29	42	49	47	41
Using an audio or video tape	11	20	32	37	24
Trying it	37	49	63	66	53

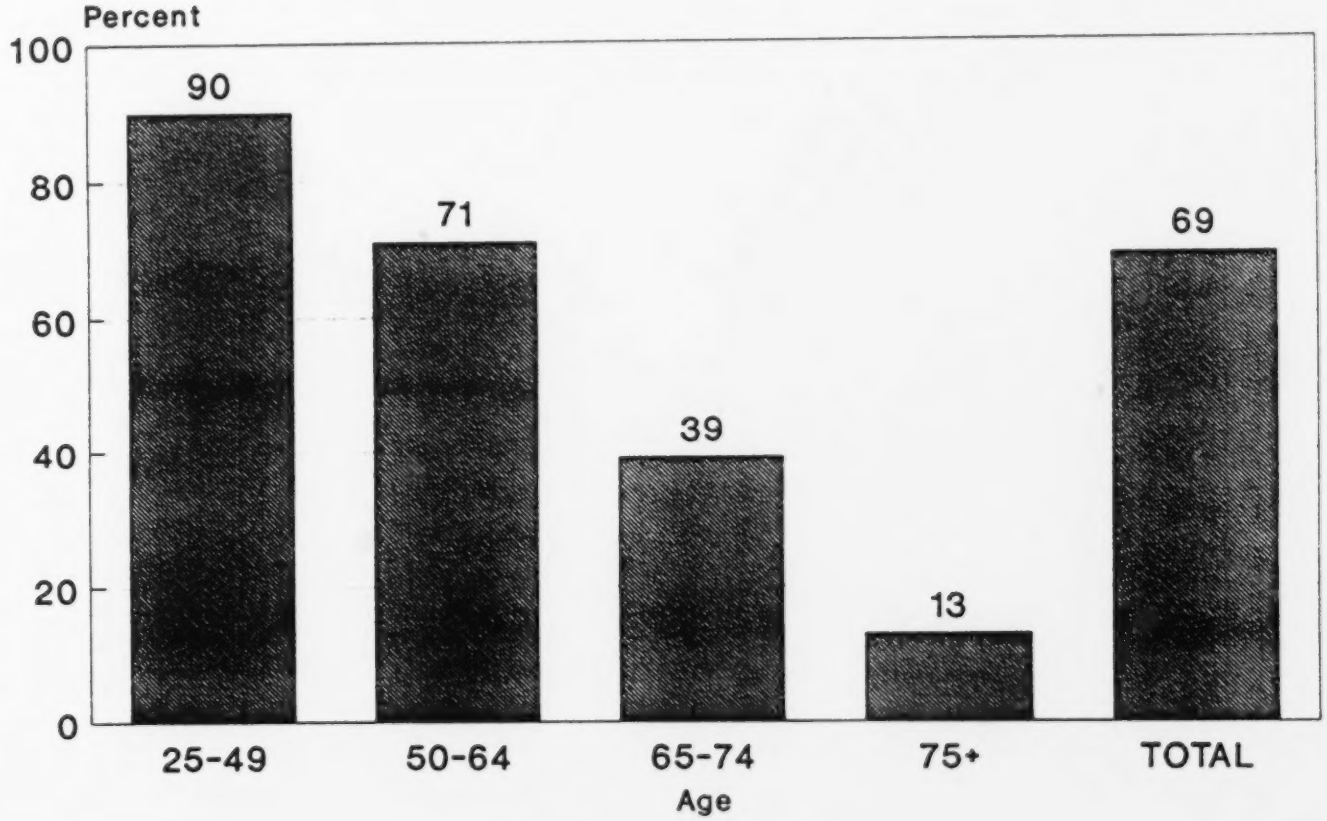
n = 1,754 Americans age 45+

NOTE: Column figures do not add to 100 percent because respondents were asked to indicate all that apply.

AARP, 1988

FIGURE 8

EXPECTED PARTICIPATION IN LEARNING ACTIVITIES, BY AGE



n = 1,627 Americans age 25+

NRS, 1989

DEPENDENT VARIABLE

- Will be involved in learning or training in 20 years

INDEPENDENT VARIABLES

Demographic Characteristics
- Age group
- Educational level
- Employment status
- Gender
- Household income
- Locale (urban, suburban, rural)
- Marital status
- Race

Family and Community Involvement
- Hours spent in formal volunteer activity
- Expected future involvement in formal volunteering
- Hours spent in informal volunteer activity
- Expected future involvement in informal volunteering
- Expected involvement in caregiving in the future

Attitudes
- General life satisfaction
- Work is a way to earn money rather than a way to define my identity
- Learning in everyday life is more important than learning in school
- I enjoy learning for its own sake
- What happens to people is due to luck; you can't control much of what happens
- I set goals and usually achieve them
- Religious values are important to me

Future Expectations and Interests
- How often respondent thinks about the future
- Expectation of future life/well-being
- Expected future need for financial information
- Interest in using educational technologies in the future
- Confidence in own ability to keep up with technologies in daily life

DISCRIMINANT ANALYSIS

Summary Table

Canonical correlation = 0.5426 Eigen value = 0.4172

Percent of cases correctly classified = 82.52%

Variable	Discriminant Coefficient	Correlation Within Function
Age group	-0.3722	-0.7582
Interest in educational technologies	0.2971	0.5246
Expected involvement in informal volunteering	0.2615	0.4887
Confidence in ability to keep up with technologies in daily life	0.1512	0.3360
Retired	-0.2286	-0.6535
Religious values are important to me	0.1550	0.0341
Household income	0.1139	0.3102
Expected future caregiving responsibilities	0.1310	0.3770
Some college, but no degree	0.1264	0.1180
Expected involvement in formal volunteering	0.0980	0.3856

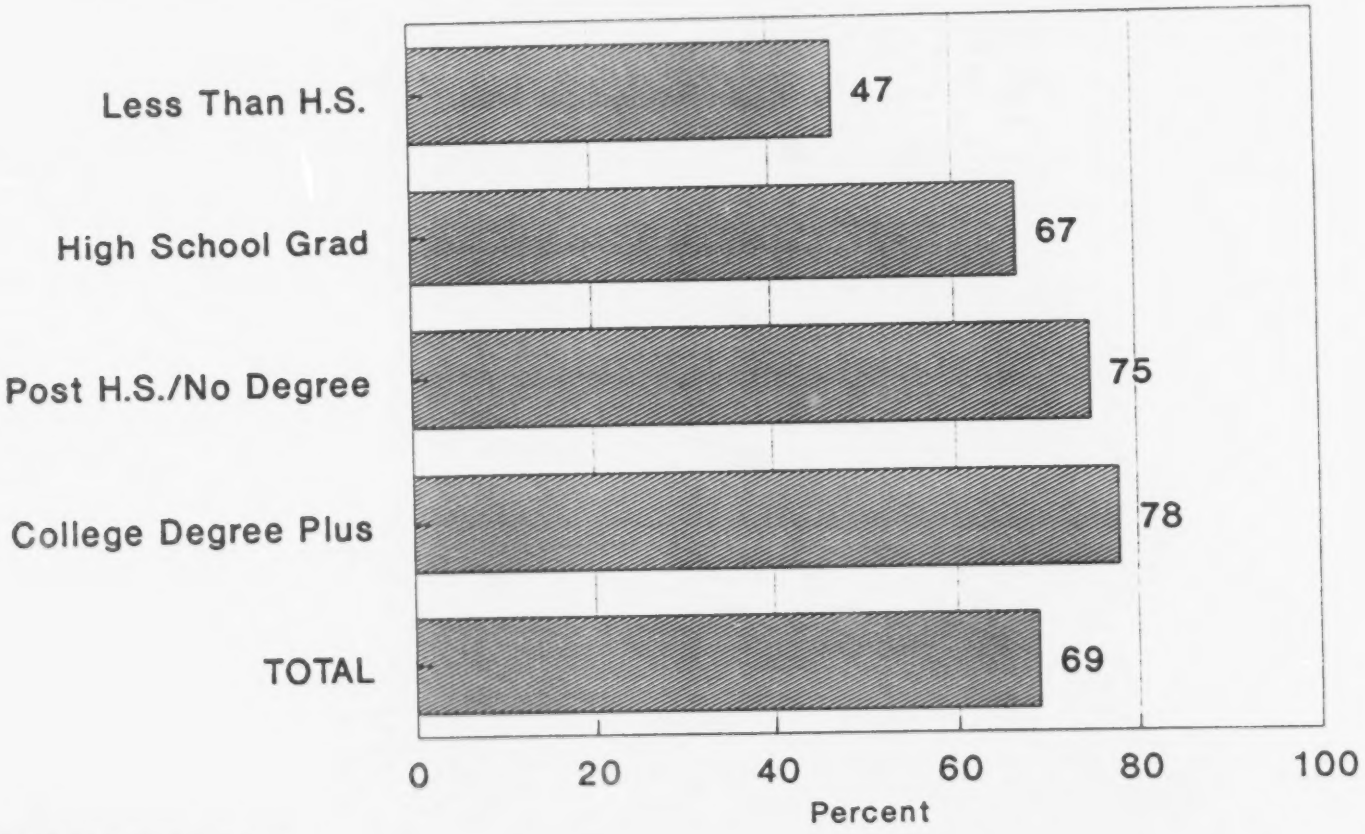
Variable	Discriminant Coefficient	Correlation Within Function
Expectation of future life/well-being	0.0840	0.4448
Work is a way to earn money rather than a way to define my identity	-0.0730	-0.1639
Expected need for financial information	0.0888	0.3464
American Indian	0.0668	0.0087
How often respondent thinks about the future	-0.0578	0.1428
Locale	0.0648	0.1278
Black	-0.0575	-0.0343

n = 1,827 Americans age 25+

NRS, 1989

FIGURE 9

PARTICIPATION IN LEARNING OR TRAINING ACTIVITIES, BY LEVEL OF EDUCATION



n = 1,827 Americans age 25+

NRS, 1989

FIGURE 10

EXPECTED PARTICIPATION IN LEARNING OR TRAINING ACTIVITIES, BY AGE AND TYPE OF LEARNING

(in percent)

	25-49	50-64	65-74	75+	Total
Related to leisure activities, hobbies, or personal interests	73	56	32	12	56
Related to volunteer activities and skills	68	54	25	6	51
To gain job or money-making skills	51	15	3	4	30

n = 1,827 Americans age 25+

NOTE: Column figures do not add to 100 percent because respondents were asked to indicate all that apply.

NRS, 1989

FIGURE 11

INTEREST IN USING EDUCATIONAL TECHNOLOGIES FOR DISTANCE LEARNING IN THE FUTURE, BY AGE

(in percent)

	25-49	50-64	65-74	75+	Total
Yes, would be interested	61	43	22	22	46
No, would not be interested	26	44	66	72	42
Maybe, not sure	13	13	12	6	12

n = 1,827 Americans age 25+

NRS, 1989

FIGURE 12

LEARNING FOR THE MARKET: WORSENING PROBLEMS

- Worsening economic and social problems
- Austerity forces cutbacks in educational and social programs
- Focus on job and basic skills training in competitive global market
- New educational technologies concentrated in business; limited availability to individuals
- Older people face economic difficulties and feel "left behind" by technological advances
- Slightly higher life expectancy, but poor health limits activity in later years

NRS, 1990

FIGURE 13

THE LEARNING BOOM: SOLVING PROBLEMS

- Stable economy; social problems addressed effectively
- Education viewed as solution to social and global problems
- Focus remains on job and basic skills training; personal growth learning only for wealthier persons
- New educational technologies available in the community or at home for the wealthy
- All age and income groups, including older people, have opportunities to learn
- Higher life expectancy and improved health, allowing greater activity in later years

NRS, 1990

FIGURE 14

RENAISSANCE: EXPLORING NEW POSSIBILITIES FOR LIFELONG EDUCATION

- Optimal economic performance; social problems minimized
- Expanded public and private educational programs with access for all
- Education offered as on-going, high-priority activity, both for job training and for personal growth
- New, inexpensive educational technologies available for all, either at home or in the community
- New roles for older people as teachers, mentors, and learners
- High life expectancy, long healthspan, and improved use of learning potential make later years very productive

NRS, 1990

SUMMARY MATRIX OF SCENARIOS

FACTOR	BACKGROUND: 1960-1990	LEARNING FOR THE MARKET	SUSTAINED PROBLEM SOLVING	RENAISSANCE
ECONOMY	Rapid, cheap energy-fueled growth in 60's, more modest growth in 70's, and consistent growth after 81-82 recession fueled by deficit spending. Inflation high during 70's, early 80's with resultant real declines in effective disposable income for middle class and poor.	1990-2020: slow growth, averaging 1.5%; in 1997 austerity program instituted; inflation in 90s driven by energy costs; productivity growth slows to 0.4% in mid-90s, but increases to 1.3% by 2020.	1990-2020: variable but 2.5% average growth as new technologies increase productivity and generate new products and services; inflation rates vary but impact not significant over 30 year period; productivity growth averages 1.8%.	1990-2020: variable but 3% average annual growth new technologies begin t lessen the number of workers needed; social policies ensure minimum income/purchasing power; inflation varies but not significant over 30 year period; productivity growth averages 2.5%.
SOCIAL PROBLEMS/ SOCIAL POLICY	A growing underclass during the 1980s; drugs, crime, other social pathologies worsen; welfare usually inadequate and counterproductive yet necessary.	Little change in social commitments; problems worsen as a result of being ignored or dealt with inadequately; poverty and environmental problems become acute.	"Assumption of responsibility" for societal problems is a major theme of 1990s; "smart solutions" like preventive health care cut costs.	Changing values, preventive behaviors, and greater resources lessen social problems. All out effort to narrow gap between of rich and poor, knows and know nots.
VALUES	Achievement values predominate though expressive values begin to grow.	Roughly same pattern of stable, predominately achievement-oriented values, of 1960-90 period.	Rise of integrative values during 90s; renewal of social idealism.	Rise of integrative values in 1990s; social idealism amplified by economic success, positive global changes, growing altruism of an aging population, etc.
LLE POLICY FOCUS	No special focus; policy generally lets the market and public school system supply relevant learning, with inadequate "second chance" training system for those who don't make it.	Focus remains ill-defined in 1990s; worsening economic situation leads to focus on instumental skills in 2000s and 2010s, mainly for younger workers.	Greater support for LLE for people of all ages to boost productivity; later LLE used as part of a job spreading policy.	Great support for LLE, a all ages both ~~all ages, both~~ for jobs and personal growth; commitment to make LLE tools and resources available to all; guaranteed annual income.
LEARNING NEEDS	40 million people need basic skills or retraining each year for jobs; large number not functional in non-job capacity.	Increased needs for better trained workers emphasizing basic literacy among the young.	Increased needs for people of all ages in 2000s and 2010s, increased learning needed to support creative leisure.	Radically increased need due to very rapid technological change, impacts of automation, a growing emphasis on self-actualization.

FACTOR	BACKGROUND: 1960-1990	LEARNING FOR THE MARKET	SUSTAINED PROBLEM SOLVING	RENAISSANCE
SOURCES AND PURPOSES OF LEARNING	80% of individual "learning projects" are self planned. Of those, 20% provided by paid or volunteer teachers, about 30% for work; 22% personal growth; the rest are family, community needs, etc.	Little change; though hard times prompt survival skills, hobby skills used for income, growth in gardening, etc.	85-90% learning projects now self-mediated, assisted by technology and learning networks enable shift from mass production to person specific/unique focus.	Over 90% self-mediated, assisted by technology. Self-help groups establish new forms of counseling and mentoring; both instrumental and personal LLE are more social contribution oriented.
HEALTH AND ITS RELATION TO LLE	Health is a major focus of LLE projects; its importance grows in 70's and 80's; people living longer but with high morbidity; potential for longer lifespans and longer "healthy spans" hypothesized.	Longer lifespans, but little reduction in morbidity; aging less "plastic" than suspected; LLE projects for self health remain at earlier levels, aided somewhat by information technology.	Longer lifespans with greater physical health and mental acuity later in life, aided by and spawning significant growth in LLE about health.	Technology and scientific research on learning converge to spur effectiveness of LLE which more vigorous elders take advange of; reconceptualization of learning capabilities and appropriate social roles for older people.
LEARNING TECHNOLOGY AND INFRA-STRUCTURE	Wide variety of broadcast, video, audio, and print materials. Much available through public or low cost means, though also a healthy market for personal and OTJ technologies and materials.	Advances in many types of learning technologies, including voice input/output, hypermedia, electronic databases, unified home information appliance. Emphasis on corporate use.	Greater investments bring greater capabilities sooner: voice input/output, advanced simulations, optical fiber to homes, much more.	Very rapid progress brings miniaturized supercomputers, artificial intelligence applications like "knowbots" to assist human learning.
	Some learning technology and media are widely distributed; most are related to income or instrumental importance of learning. Some aspects of the infrastructure (e.g. telephone) are widely available and used, though new phone-related learning services not widely available.	Same; inequitable distribution of technologies and learning opportunities because of the reliance on the market. Limited access of lower SES workers to cost effective LLE resources.	National policy and local initiatives to equalize access to learning resources, most often through enhancements to the local public telephone system. Fiber optic cable or other broadband capacity in most homes before 2010. Public libraries, effective local markets and low income subsidies ensure effective applications of the technology are available to most people.	Advanced learning technologies become cheaper, faster. Focus on creativity and diminished reliance on jobs for wealth transfer accelerate policies that make the learning, community service, personal growth and leisure services widely available.

FACTOR	BACKGROUND: 1960-1990	LEARNING FOR THE MARKET	SUSTAINED PROBLEM SOLVING	RENAISSANCE
PUBLIC FUNDING POLICIES	For primary and secondary schools about $5,000 per student in the late 1980s (45.5 million enrolled = $238 billion). Expenditures beyond high school only a few dollars per year per student.	Little shift from current policies; hard times mean that LLE gets little increase.	Policy shifts funds to life cycle expenditures; bulk concentrated on K-12, but significant amount available each year; policies to optimize offerings of local schools, libraries and other sources, and through broadband telephone into the home. Policy introduced to overcome inequities through universal access to information and technology.	Increased resources with emphasis on basic literacy and skills, a "new literacy" for using informational tools and learning to learn, promoting multi-generational "community learning centers," supporting self-directed learning.
LLE CORPORATE EXPENDITURES	Corporations spend about $30 billion for formal training, while 3 to 6 times as much is spent on informal on-the-job learning.	Expenditures on instrumental training and personal growth LLE increase where cost effective. Despite hard times, use of cost reducing training technology increases.	Large investments in "human capital" development prove cost effective in the 90's even in high job sharing, short work week settings. Acceptance of human capital approaches globally keep cost effective expenditures high.	Very large investments in human capital prove cost effective during entire working years. Expert systems and automation of training and much work reinforce personal growth and effectiveness workforce.